

Application No.: 09/961025

Case No.: 56022US012

---

**Amendments to the Specification:**

Please amend the specification as follows:

Please change the title of the application from "Extrusion Method and Apparatus" to "Process of Making Microporous Film".

On page 3, please replace the paragraph that starts on line 20 with the word "The" and ends on line 25 with the word "separation" with the following amended paragraph:

"The present invention is a method for producing microporous films. The method utilizes a casting surface and a condensing surface. The condensing surface is spaced from the casting surface to form a gap. The distance between the surfaces forming the gap is relatively small and is preferably less than 3 cm. A material is cast onto the casting surface, preferably through conventional extrusion practices. The material is capable of forming [[a]] microporous films by thermally induced phase separation."

On page 7, please replace the paragraph that starts on line 29 with the word "The" and ends on page 8, line 2 with the word "below" with the following amended paragraph:

"The grooves in the condensing surface can be triangular, rectangular, circular, or other more complex shapes. The groove material, geometry, and dimensions are designed to accommodate the required mass flow, which is dictated by the rate of separation and physical properties of the condensate, mainly, surface tension, viscosity, and density. ~~Rectangular and triangular grooves are shown in the schematic below.~~"

On page 8, please replace the paragraph that starts on line 12 with the word "Another" and ends on line 19 with the word "entirety" with the following amended paragraph:

---

"Another optional embodiment of the present invention utilizes a vapor collection apparatus at a trailing end of a condensing plate. The apparatus is located in close proximity to

Application No.: 09/961025

Case No.: 56022US012

the surface of the material in order to collect vapor that has not condensed on the condensing plate. Generally, the vapors are carried by the motion of the web in the adjacent gas phase portion of the surface of the material. A vapor collection system suitable for the noted purpose is fully described in U.S. Patent Application Serial No. [[\_\_\_\_]] 60/274050, (Attorney Docket No. 56021US002) filed concurrently with this application and herein incorporated by reference in its entirety."

On page 8, please replace the paragraph that starts on line 20 with the word "Specific" and ends on line 32 with the word "acids" with the following amended paragraph:

"~~Specific~~ Ingredients in the microporous film are generally include a crystallizable polymer, diluent, and nucleating agent. Examples of suitable crystallizable polymers, nucleating agents and diluents include those detailed in U.S. Patent No. 4,726,989, previously incorporated by referencereferee. Additional nucleating agents include: gamma quinacridone, aluminium salt of quinizarin sulphonic acid, dihydroquimiacidin-dione and quinaridin-tetrone, triphenenol ditriazine, two component initiators such as calcium carbonate and organic acids or calcium stearate and pimelic acid, calcium silicate, dicarboxylic salts of metals of the second main group of the periodic table, delta-quinacridone, diamides of adipic or suberic acids, calcium salts of suberic or pimelic acid, different types of indigosol and carbantine organic pigments, quiacridone quinone, N',N'-dicyclohexil-2,6-naphthalene dicarboxamind, and anthraquinon red and bis-azo yellow pigments. Preferred agents include gamma-quinacridone, a calcium salt of suberic acid, a calcium salt of pimelic acid and calcium, zinc and barium salts of polycarboxilic acids.

On page 9, please replace the paragraph that starts on line 6 with the word "In" and ends on line 12 with the word "materials" with the following amended paragraph:

"In operation, the temperature of the capillary condensing surface should be set lower than the temperature of the extrusion die. The temperature of the capillary condensing surface should also be set lower than the boiling or smoke point temperatures of the solvent/oil in the microporous film. Preferably, the capillary condensing surface temperature will be set higher

Application No.: 09/961025

Case No.: 56022US012

than the dewpoint of the water in the surrounding environment air to prevent undesired "sweating" of the water on the apparatus. Those skilled in the art are capable of sizing the system for specific conditions and materials."

On page 9, please replace the paragraph that starts on line 21 with the word "These" and ends on line 31 with the word "possible" with the following amended paragraph:

~~"The~~These condensing plates can be built to provide a gap or space for the pinning wire, ~~as illustrated in Figures 1 and 3 to be located.~~ The surfaces of the capillary condensing surface apparatus can optionally be constructed or covered with an electrically insulating material to prevent undesired arcing or interference with the electrostatic pinning process. Alternatively, a low volume air or gas purge can be supplied in the vicinity of the electrostatic pinning wire to maintain the environment there nearly unsaturated of the low volatility oil or solvent. ~~This is as shown in Figures 1 and 3.~~ The airflow must be uniform and controlled to minimize the development of unwanted patterns in the TIPS material due to non-uniform heat transfer to the cast film surface from the uneven air flows. Airflows less than 1 m/sec (200 fpm) are desired, with lower airflows of below 0.15 m/sec preferred. The airflow should be as uniform and laminar as possible."

On page 10, please replace the paragraph that starts on line 9 with the word "One" and ends on line 22 with the word "etc" with the following amended paragraph:

"One means of accomplishing this low airflow is through the use of a porous media. The porous plate may be constructed from a variety of materials, such as sintered metal, sintered plastic or ceramic, paper or synthetic filter media, screens, perforated plates or any combination thereof to produce generally uniform resistance to airflow necessary for laminar air flow. If the gas purge for the pinning wire is positioned between capillary condensing surfaces, it is contemplated that electrically insulating coatings could be used to shield the ends of the condensing plates as well as for coating or construction of the manifold assembly itself, because metallic electrically grounded surfaces could adversely consume the charged ions emitted from

Application No.: 09/961025

Case N .: 56022US012

---

the pinning wire, thus reducing its effectiveness. This could be accomplished by coatings of polymer or ceramics, veneers of electrically insulators, or construction from electrical insulator materials. The gas could be any gas stream that does not undesirably react chemically ~~react~~ with the cast material or the apparatus, and also does not contain undesired particulate or condensable contaminants. Such gases could include air, nitrogen, carbon dioxide, helium, or other inert gases-etc."